



This report was prepared by:  
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Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

## Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our best allies.

For more information about this report, or for any questions relating to your drinking water, please call Matt Brooks, Water Operations Supervisor, at (909) 336-7163 or Customer Service at (909) 336-7100. You may also visit our Web site at <http://www.lakearrowheadcsd.com>.



## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. Regular meetings of the Board of Directors are held on the second and fourth Tuesday of each month (with the exception of December) at 6:30 p.m. at the District Board Room (840 Willow Creek Road) in Lake Arrowhead. Special meetings may be held, if necessary, throughout the year, with dates, times, and locations to be determined.

## Where Does My Water Come From?

The primary source of drinking water supplied to District customers in Arrowhead Woods is from Lake Arrowhead and is supplemented by water from groundwater wells and purchased water from San Bernardino Valley Municipal Water District (MUNI) and the Crestline-Lake Arrowhead Water Agency (CLAWA). CLAWA treats the water and delivers it into the District's distribution system, where it is blended with water treated by the District. Both agencies use state-of-the-art treatment processes to ensure that the water delivered to your home is safe and pleasant tasting. Although our water quality consistently meets Public Health Goals, we do not currently have enough supply to meet community demands in a prolonged dry period.

## Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil, and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested many water samples for coliform bacteria. In that time, none of the samples came back positive for the bacteria. Federal regulations now require that public water that tests positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliform are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliform to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

## Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include: Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems; Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

## Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Information on the Internet

The U.S. EPA Office of Water ([www.epa.gov/watrhme](http://www.epa.gov/watrhme)) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Division of Drinking Water and Environmental Management has a Web site ([www.cdph.ca.gov/certlic/drinkingwater/Pages/default.aspx](http://www.cdph.ca.gov/certlic/drinkingwater/Pages/default.aspx)) that provides complete and current information on water issues in California, including valuable information about our watershed.

## Source Water Assessment

A watershed sanitary survey was originally completed in 1995 to determine the vulnerability of the lake to contaminants. That survey was updated in 2001, and again most recently in 2009, and concluded that the lake is at low risk for contamination, with the greatest potential being the proximity of the wastewater pump stations and the wastewater collection system to the lake. The District filed its Vulnerability Assessment with state and federal agencies in 2006.

## Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES									
				Lake Arrowhead CSD		Crestline-Lake Arrowhead Water Agency (CLAWA)			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2011	200	60	6.88	ND–74	57.25	ND–230	No	Erosion of natural deposits; residue from some surface water treatment processes
Chlorine (ppm)	2011	[4.0 (as Cl <sub>2</sub> )]	[4 (as Cl <sub>2</sub> )]	0.71	0.22–1.69	NA	NA	No	Drinking water disinfectant added for treatment
Control of DBP precursors [TOC] (ppm)	2011	TT	NA	3.1	2.6–4.3	NA	NA	No	Various natural and man-made sources
Fluoride (ppm)	2011	2.0	1	NA	NA	0.01	ND–0.11	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2011	15	(0)	1.71	ND–7.5	NA	NA	No	Erosion of natural deposits
Haloacetic Acids (ppb)	2011	60	NA	19.32	1.2–39.7	3	ND–7.6	No	By-product of drinking water disinfection
Nitrate [as nitrate] (ppm)	2011	45	45	NA	NA	1.09	ND–3.0	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	38.63	16.1–56.8	23	7–46.9	No	By-product of drinking water disinfection
Turbidity <sup>1</sup> (NTU)	2011	TT	NA	0.119	0.07–0.24	0.09	ND–0.6	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT	NA	100	NA	NA	NA	No	Soil runoff
Uranium (pCi/L)	2011	20	0.43	0.120	ND–2.90	NA	NA	No	Erosion of natural deposits
Tap water samples were collected for lead and copper analyses from sample sites throughout the community									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2010	1.3	0.3	0.88	2/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives		
Lead (ppb)	2010	15	0.2	5.4	1/31	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits		



SECONDARY SUBSTANCES									
				Lake Arrowhead CSD		Crestline-Lake Arrowhead Water Agency (CLAWA)			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2011	500	NS	15	15–15	47.44	32–90	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2011	15	NS	2.5	2–12	NA	NA	No	Naturally occurring organic materials
Corrosivity (Units)	2011	Non-corrosive	NS	11.08	10.92–11.25	NA	NA	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; affected by temperature and other factors
Iron (ppb)	2011	300	NS	NA	NA	9.38	ND–150	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2011	50	NS	23.5	22–25	4.63	ND–74	No	Leaching from natural deposits
Odor–Threshold (TON)	2011	3	NS	2	1–4	1	1–1	No	Naturally occurring organic materials
pH (Units)	2011	6.5–8.5	NS	7.71	6.88–8.47	7.75	7.5–8.0	No	Naturally occurring
Specific Conductance (µS/cm)	2011	1,600	NS	223	171–463	NA	NA	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2011	500	NS	3.2	3.2–3.2	37.56	30–46	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2011	1,000	NS	105	100–110	216.25	170–310	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2011	5	NS	0.282	0.07–2.19	NA	NA	No	Soil runoff
Zinc (ppm)	2011	5.0	NS	0.07	ND–0.14	NA	NA	No	Runoff/leaching from natural deposits; industrial wastes
UNREGULATED AND OTHER SUBSTANCES									
		Lake Arrowhead CSD		Crestline-Lake Arrowhead Water Agency (CLAWA)					
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE			
Boron (ppb)	2011	NA	NA	26.88	ND–130	NA			
Calcium (ppm)	2011	52	19–80	NA	NA	NA			
Magnesium (ppm)	2011	3.1	3.1–3.1	NA	NA	NA			
Potassium (ppm)	2011	2.1	2.1–2.1	NA	NA	NA			
Sodium (ppm)	2011	12	12–12	40.69	33–58	NA			
Total Hardness (ppm)	2011	73	50–200	100	88–120	NA			
Vanadium (ppb)	2011	NA	NA	1.61	ND–5	NA			

<sup>1</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

## Definitions

**AL (Regulatory Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**µS/cm (microsiemens per centimeter):** A unit expressing the amount of electrical conductivity of a solution.

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**NS:** No standard.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**PDWS (Primary Drinking Water Standard):** MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

**PHG (Public Health Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TON (Threshold Odor Number):** A measure of odor in water.

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.